ROGEM

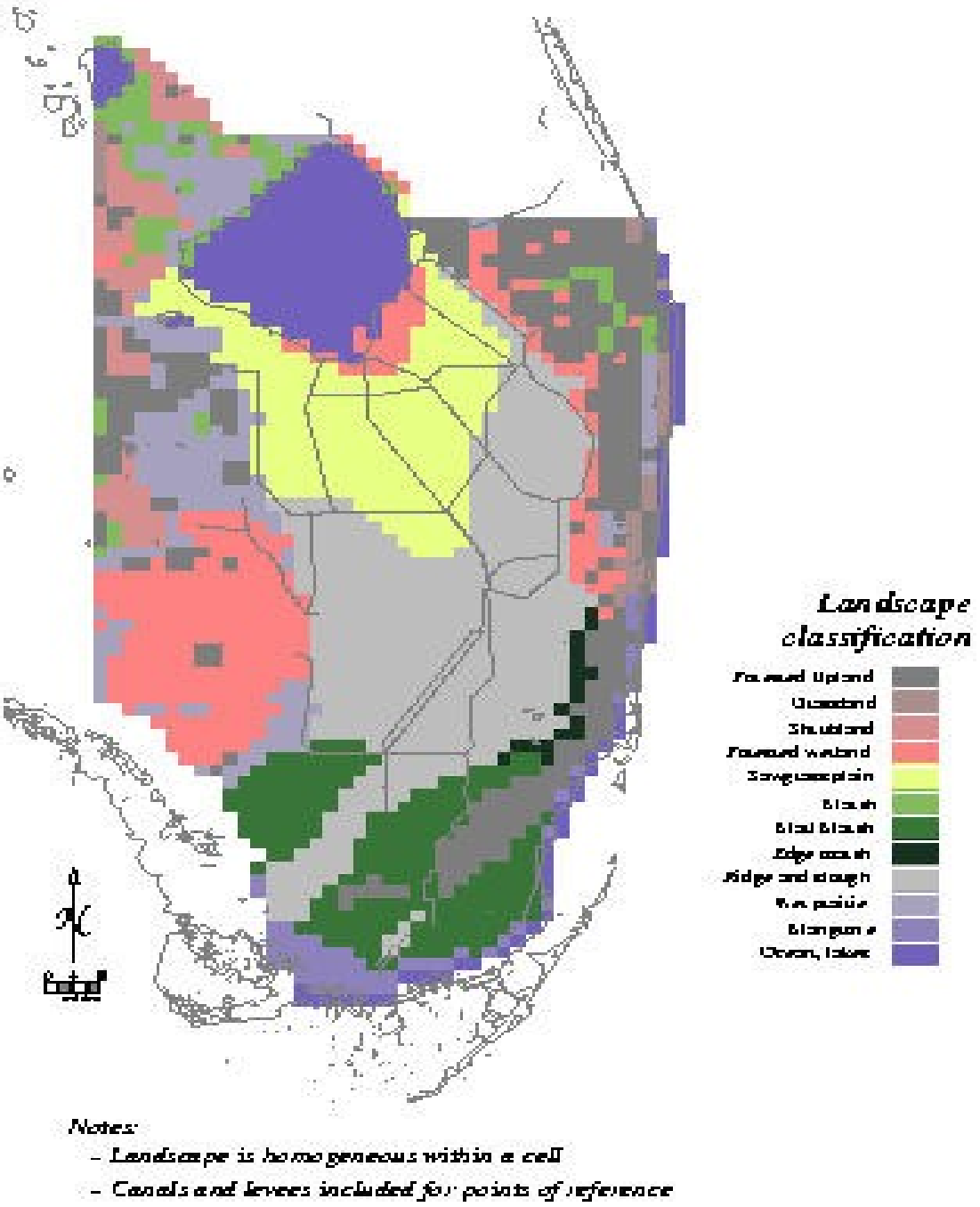
River of Grass
Evaluation
Methodology

ROGEM

The Central and
Southern Florida Project
Review Study
aka

“The Restudy”

Natural System Model Landscape

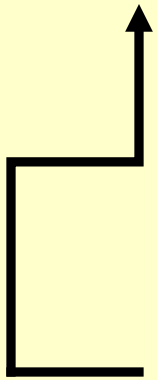


JUST THE AGENCIES AND TRIBES . . .

- U.S. Army Corps of Engineers
- South Florida Water Management District
- US Fish and Wildlife Service
- Everglades National Park
- National Marine Fisheries Service
- U.S. Environmental Protection Agency
- Natural Resources Conservation Service
- Miccosukee and Seminole Tribes
- Florida Department of Agriculture and Consumer Services
- Florida Department of Environmental Protection
- Florida Fish and Wildlife Conservation Commission
- Local Government Agencies

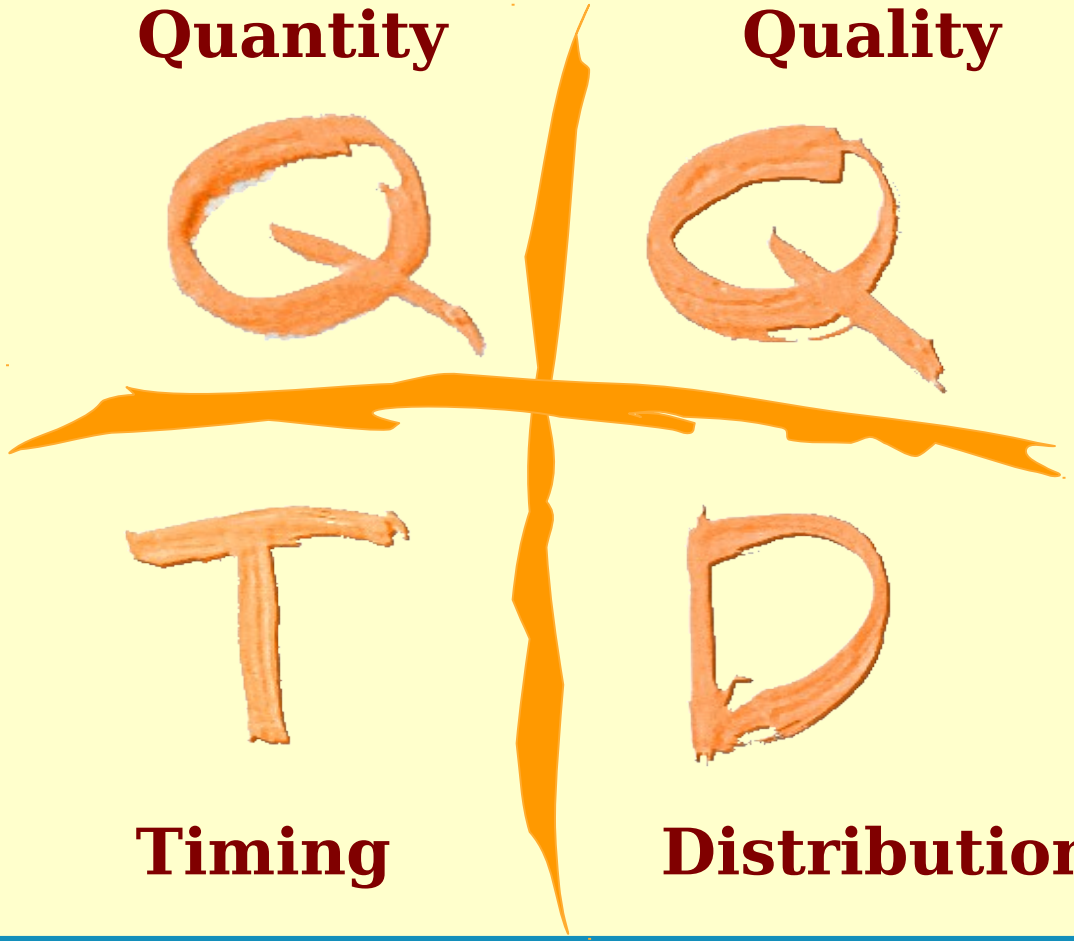
WARNING:
Dates on Calendar are closer than they appear!

Iterative Plan Formulation

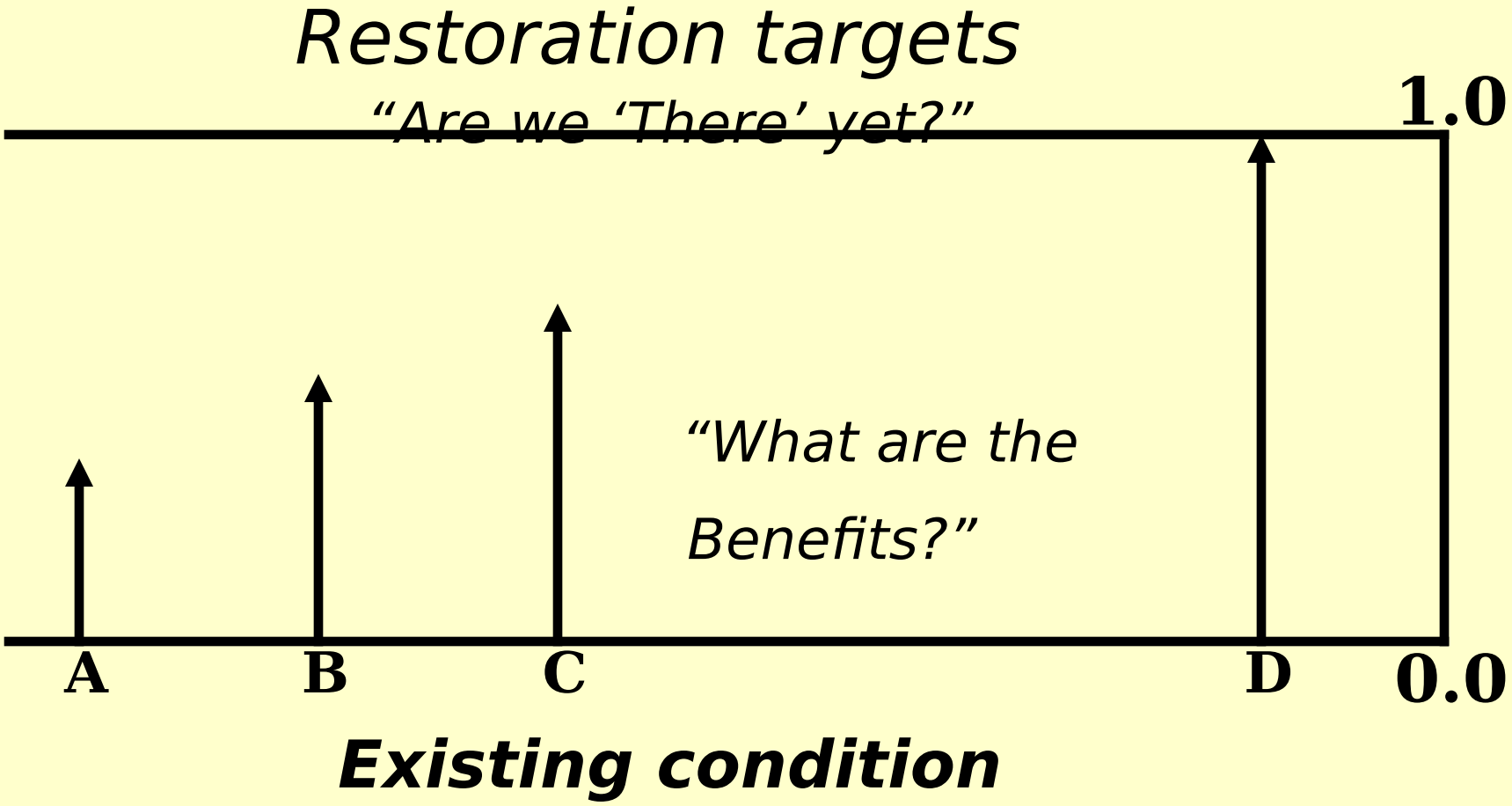


- *Include Stakeholders throughout!*
- Formulate
- Model & Evaluate
- Formulate a *better* plan
- Repeat
- *Last Plan is the Best Plan*

Get The Water Right



Scientific Input on:



ROGEM - How It's Done

- **Step 1: Define Communities**
- **Step 2: Form Teams**
- **Step 3: Define Conditions**
- **Step 4: Select Performance Measures**
- **Step 5. Develop SIs**
- **Step 6. Develop CSIs**

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- **Step 7. Model the Plans**

ROGEM Communities

Historic Condition

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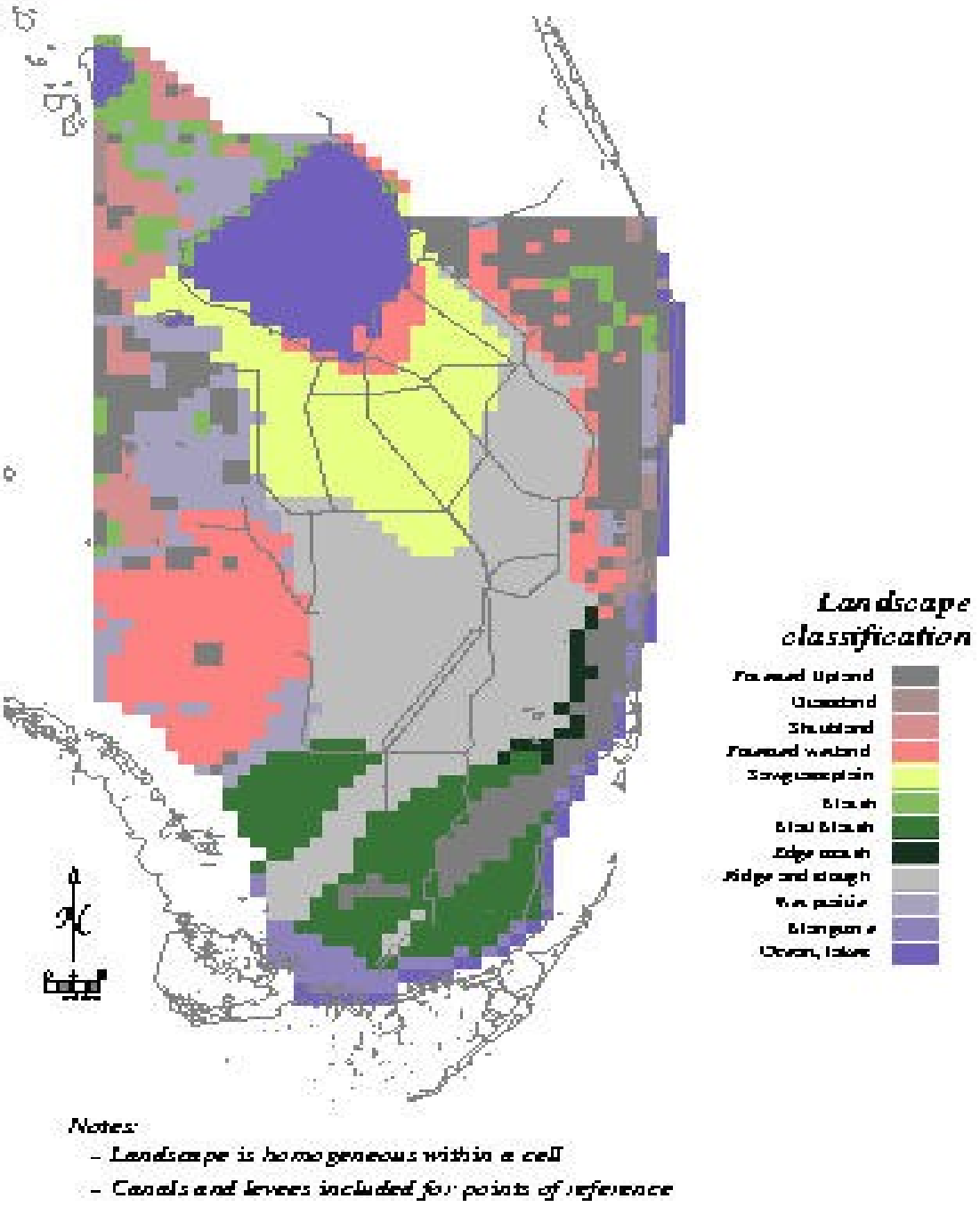

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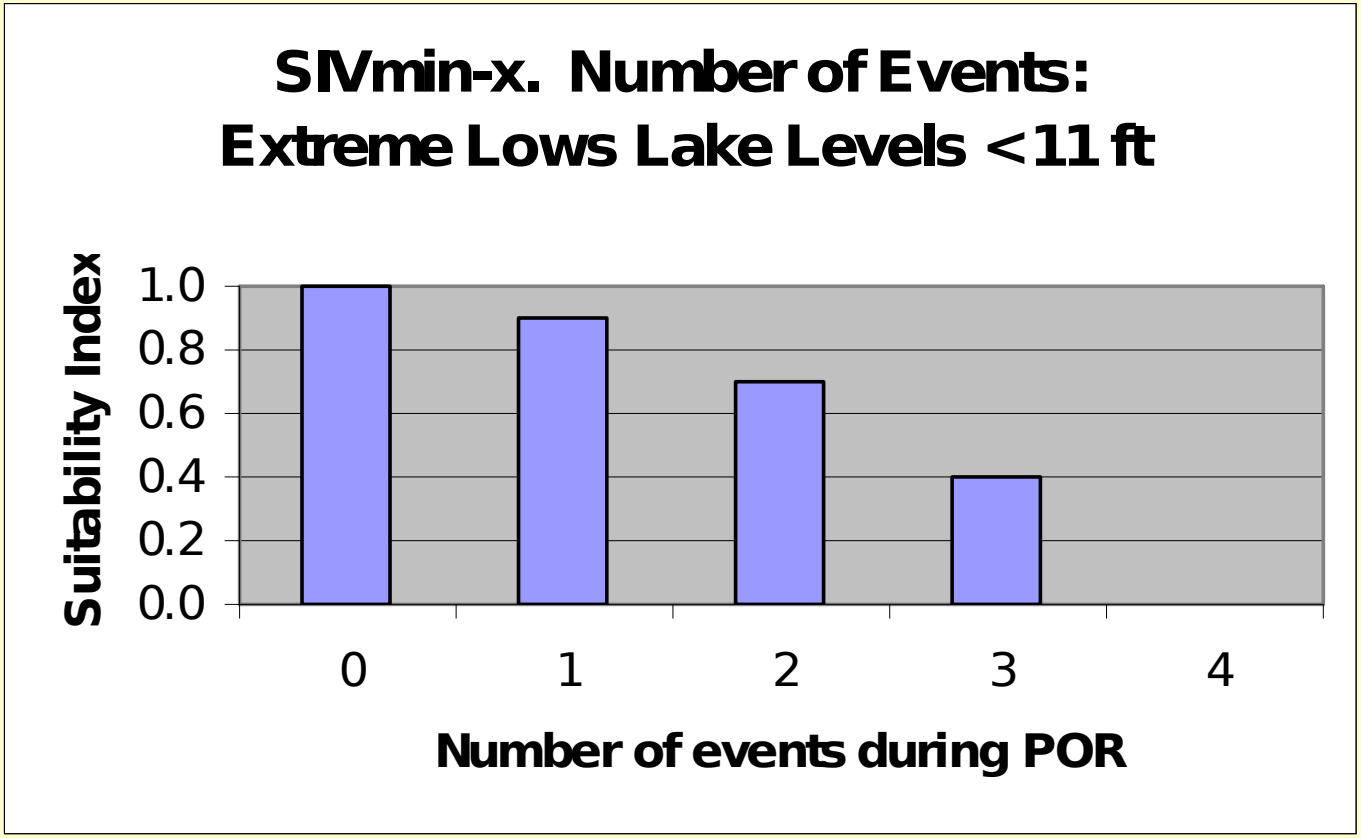
ROGEM PERFORMANCE MEASURES must:

- **describe an important cause and effect relationship between the hydrology and habitat quality**
- **be easy to estimate, based on readily obtainable data**
- **be sensitive to the differences between plans**
- **have targets**

PERFORMANCE MEASURES for LAKE OKEECHOBEE

- SI_{SE} = Spatial extent
- SI_{LT} = Long-term flooding of the littoral zone
- SI_{FD} = Dry season fluctuation of lake levels
- SI_{FW} = Wet season fluctuation of lake levels
- SI_{DD} = Draw Downs

SUITABILITY INDEX GRAPH FOR SIVmin-x



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CSI for Lake Okeechobee Community

$$CSI = \frac{SIV_{SE} = SIV_{LT} + (SIV_{FW} \times SIV_{FD}) \quad + SIV_{DD}^{1/2}}{4}$$

ROGEM SCORES

COMMUNITY	95Base	50Base	Plan A	Plan B	Plan C	D13R
Total System	0.4	0.4	0.4	0.9	0.7	0.8
	0.6	0.2	0.7	0.8	0.7	0.7
	0.0	0.1	0.0	0.8	0.7	0.8
Lake Okeechobee	0.6	0.6	0.8	0.8	0.9	0.9
Water Supply	0.6	0.3	0.8	0.7	0.8	0.9
	0.9	0.3	0.8	0.8	0.8	0.8
Flood Control	0.9	0.3	0.8	0.8	0.8	0.8
North Central Everglades	0.4	0.4	0.6	0.5	0.4	0.6
Southern Everglades	0.5	0.1	0.7	0.6	0.7	0.7
	0.3	0.4	0.5	0.5	0.5	0.5
Florida Bay Coastal Basins	0.2	0.3	0.7	0.7	0.7	0.7
Model Lands/C-111	0.5	0.5	0.8	0.8	0.8	0.8
Big Cypress	0.7	0.7	0.8	0.8	0.8	0.8
Caloosahatchee Estuary	0.4	0.4	1.0	1.0	1.0	1.0
St. Lucie Estuary	0.6	0.7	1.0	1.0	1.0	1.0
Lake Worth	0.1	0.1	0.5	0.5	0.5	0.5
Biscayne Bay	0.9	0.9	0.8	0.8	0.8	0.9

PEER REVIEW RESULTS

- ☺ **ROGEM Is Acceptable**
- ☺ **Assumptions Are Valid**
- 😐 **Single Number Indicators? Ranges? Confidence Intervals?**
- ☹ **Combining CSIs? Questionable.**
- ☹ **Using Single Numbers in the Economic Analysis? Questionable.**

SUMMARY of ROGEM

- Predictive Tool
- *“Are we There yet?”*
- *What’s the best plan?”*
- Uses Outputs from Hydrologic Models
- Habitat-Based On A Community Scale
- Gives Indices of Habitat Quality
- ***F A S T!*** and understandable